

WHAT IS CLAIMED IS:

- 1 1. A method comprising:
 - 2 in a client server network, maintaining systems having grid managers having
 - 3 hierarchical relations, the relations of each grid manager stored in each of the systems.
- 1 2. The method of claim 1 in which each of the relations are classified as superior or
2 inferior.
- 1 3. A system comprising:
 - 2 a network of computer systems, each of the computer systems including a
 - 3 grid management engine, each of the grid managers having hierarchical relations with
 - 4 other grid managers, the relations of each grid manager stored in each of the systems.
- 1 4. The method of claim 3 in which each of the relations are classified as superior or
2 inferior.
- 1 5. A method comprising:
 - 2 in a network, starting an execution of a first service on a first computer, the first
 - 3 service handling at least locating, reserving, allocating, monitoring, and deallocating one
 - 4 or more computational resources for one or more applications using the network;
 - 5 reading, by the first service, a file to inform the first service of a relation with a
 - 6 second service, wherein the first service has a inferior relation with the second service,
 - 7 the inferior relation meaning that the second service can send a query for available
 - 8 computer resources to the first service;
 - 9 establishing a first communication channel from the first service to the second
 - 10 service; and
 - 11 accepting an opening of a second communication channel from the second service
 - 12 to the first service.
- 1 6. The method of claim 5 further comprising:
 - 2 receiving a message to cancel the first service's inferior relation with the second
 - 3 service;
 - 4 closing the first and second communication channels;

5 receiving a message to generate a inferior relation from the first service to a third
6 service residing in a third computer;

7 establishing a third communication channel from the second service to the third
8 service; and

9 accepting an opening of a fourth communication channel from the third service to
10 the first service.

1 7. The method of claim 5 wherein establishing a first communication channel further
2 comprises determining if the second service responds to determining and if not,
3 establishing a communication channel to the second service after a predetermined time
4 period.

1 8. A method comprising:

2 in a network, starting an execution of a first service residing in a first computer,
3 the first service handling at least locating, allocating, monitoring, and deallocating one or
4 more computational resources for one or more applications using the network;

5 starting an execution of a second service residing in a second computer;

6 reading, by the second service, a file to inform the second service of a relation
7 with the first service, wherein the second service has a inferior relation with the first
8 service, wherein the inferior relation indicates that the first service can send a query for
9 available computer resources to the second service;

10 establishing a first communication channel from the second service to the first
11 service; and

12 establishing a second communication channel from the first service to the second
13 service.

1 9. The method of claim 8 further comprising:

2 receiving, by the second service, a message to cancel the second service's relation
3 with the first service;

4 closing the first communication channel;

5 failing to respond to the second communication channel;

6 receiving a message to create a inferior relation from the second service to a third
7 service;

8 establishing a third communication channel from the second service to the third
9 service; and

10 establishing a fourth communication channel from the second service to the third
11 service.

1 10. A system comprising:

2 two or more computers each configured to run a service, the service handling at
3 least locating, allocating, monitoring, and deallocating one or more computational
4 resources for one or more applications;

5 a network of the services, the network configured such that a first service from the
6 services has a superiorrelation with a second service from the services and the second
7 service has an inferior relation with the first service, wherein the first service is
8 configured to check the status of the second service in the network by waiting for a
9 response to a query from the first service to the second service.

1 11. The system of claim 10 wherein the relation comprises a first communication channel
2 from the first service to the second service and a second communication channel from the
3 second service to the first service.

1 12. The system of claim 10 wherein the first service is further configured to locate the
2 one or more computational resources for the one or more applications by sending a query
3 for available computational resources to the second service.

1 13. The system of claim 10 wherein the second service is further configured to remove its
2 inferior relation with the first service and create a new superior relation with a third service.